

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

**Claims 1-50 (cancelled)**

**51. (currently amended)** A conservation tillage implement comprising:

- a) a cultivator frame;
- b) a plurality of individual coulter wheel assemblies including at least two left-side coulter wheel assemblies and at least two right-side coulter wheel assemblies, each of the coulter wheel assemblies comprising a coil spring having a horizontal axis to cause the coulter wheel assembly to move vertically as said coulter wheel assembly moves through a field, the coil springs of the at least two left-side coulter wheel assemblies being wound opposite to the winding of the coil springs of the at least two right-side coulter wheel assemblies;
- c) a plurality of mounting structures, each means corresponding to one of the plurality of each individual coulter wheel assemblies assembly, each mounting structure including pivot structure that permits the corresponding coulter wheel assembly to at least partially rotate horizontally about a vertical axis as said corresponding coulter wheel assembly moves through the field; and

d) ~~four~~ the cultivator frame being configured to receive the plurality of mounting structures such that the plurality of individual coulter wheel assemblies are disposed in three or more longitudinally spaced apart rows of laterally spaced apart individual coulter wheel assemblies, each coulter wheel assembly individually mounted to the frame using the mounting structure means, wherein a coulter wheel assembly in a given row is staggered with respect to the coulter wheel assemblies in a longitudinally adjacent row in order to reduce plugging of crop residue between the coulter wheels.

**52. (previously presented)** The conservation tillage implement according to claim 51, wherein each coulter wheel assembly is laterally adjustable.

**53. (currently amended)** The conservation tillage implement according to claim 51, wherein each coulter wheel assembly comprises a coulter wheel and structure for coupling the coulter wheel to the corresponding coil spring a corresponding spring element.

**54. (currently amended)** The conservation tillage implement according to claim 1 ~~80~~, wherein each coil spring ~~the spring element~~ comprises a coil spring having integral upper and lower shank ends extending tangentially therefrom.

**55. (Original)** The conservation tillage implement according to claim 54, wherein the lower shank end is permitted to deflect upwardly about the horizontal spring axis in response to impact with an obstacle.

**56. (currently amended)** The conservation tillage implement according to claim 51, wherein each the mounting structure ~~means~~ permits rotational movement of the corresponding coulter wheel assembly less than substantially plus or minus 30 degrees about a vertical axis.

**57. (currently amended)** The conservation tillage implement according to claim 56, wherein each the mounting structure ~~means~~ comprises a vertically extending hollow strut having a pair of opposed horizontal slots therethrough.

**58. (currently amended)** The conservation tillage implement according to claim 57, wherein each coil spring ~~the coulter wheel assembly~~ comprises an upper a shank having a horizontal hole therethrough, and wherein the upper shank is secured within the hollow strut by means of a horizontal pin extending through the slots and the hole, thereby permitting rotational movement of the shank within the hollow strut about the vertical axis.

**59. (previously presented)** The conservation tillage implement according to claim 51, wherein the implement further comprises removable individual field working tools.

**Claims 60-70. (Cancelled)**

**71. (previously presented)** The conservation tillage implement according to claim 51, wherein each coulter wheel assembly is able to deflect upwardly in response to impact with an obstacle.

**72. (previously presented)** The conservation tillage implement according to claim 51, wherein the frame comprises three or more longitudinally spaced apart transverse cross-members.

**73. (cancelled)**

**74. (previously presented)** The conservation tillage implement according to claim 72, wherein the coulter wheel assemblies are mounted to the transverse cross-members.

**75 (cancelled)**

**76. (previously presented)** The conservation tillage implement according to claim 51, wherein the implement further comprises removable individual field working tools and wherein the individual coulter wheel assemblies in a given row are staggered with respect to all coulter wheel assemblies and field working tools in longitudinally adjacent rows of the conservation tillage implement.

**77. (previously presented)** The conservation tillage implement according to claim 72, wherein there are a plurality of transverse cross-members for a given row.

**78. (previously presented)** The conservation tillage implement according to claim 77, wherein the plurality of transverse cross-members are aligned along a common transverse axis.

**79. (previously presented)** The conservation tillage implement according to claim 51, wherein the implement is able to operate at shallow depths of less than 4-6" for seedbed preparation.

**80. (currently amended)** The conservation tillage implement according to claim 51 ~~53~~, wherein, when viewed from the left side of the implement, each coil spring on the left side of the implement is wound counter-clockwise, and each coil spring on the right side of the implement is wound clockwise ~~the spring~~

~~element has a horizontal spring axis about which the coulter wheel arcuately deflects in response to impact with an obstacle.~~

**81. (previously presented)** The conservation tillage implement of claim 52, wherein a lateral spacing between adjacent coulter wheel assemblies is adjustable by a farmer according to soil, moisture or crop residue conditions by an amount sufficient to reduce plugging of crop residue between the coulter wheels.

**82. (previously presented)** The conservation tillage implement of claim 71, wherein each coulter wheel assembly is able to deflect upwardly in response to impact with an obstacle by an amount sufficient to permit the implement to operate at speeds of 8 to 12 mph without damaging the implement upon impact.

**83. (previously presented)** The conservation tillage implement according to claim 79, wherein the implement is able to operate at shallow depths of as little as 1" for seedbed preparation.

**84. (new)** A conservation tillage implement comprising:

a frame having plural rows of transverse members disposed transverse to an implement direction of travel, the transverse members being coupled to plural parallel members disposed parallel to the implement direction of travel;

plural coulter wheel assemblies, including at least three left-side coulter wheel assemblies and at least three right-side coulter wheel assemblies, each of the at least three left-side coulter wheel assemblies and the at least three right-side coulter wheel assemblies including a coil spring having a horizontal axis and configured to permit a corresponding coulter wheel assembly to move upward when contacting a ground obstacle, each of the at least three left-side coulter wheel assemblies is coil-wound opposite to the coil-winding of each of the at least three right-side coulter wheel assemblies; and

plural coulter wheel mounting assemblies for respectively coupling the plural coulter wheel assemblies to the plural rows of transverse members such that each coulter wheel assembly is staggered in the implement direction of travel with respect to coulter wheel assemblies in adjacent rows of transverse members, each coulter wheel mounting assembly including mounting structure configured to couple the corresponding coulter wheel assembly to the corresponding transverse member such that the corresponding coulter wheel assembly can be coupled at different transverse positions on the transverse member.

**85. (new)** A conservation tillage implement according to Claim 84, wherein said mounting structure includes horizontal pivot structure configured to permit the corresponding coulter wheel assembly to rotate about a vertical axis when contacting a ground obstacle.